April 6, 2010 8:56:05 AM



Page 1

Item ID:

D206-642-541

Accept



Setup Start



**Revision ID:** 

Item Name: Replacement Skidtube

**Start Date:** 

06/04/2010

Start Otv: 1.00

Req'd Qty: 1.00

Operation

Description



**Cust Item ID:** 

**Customer:** 

Reference:

Approvals:

Sequence ID/

Work Center ID

**Process Plan:** 

Date: 10-4-06 Tooling:

Date:

Date:

Run

Start Stop

Stop



**Required Date: 16/04/2010** 

QC:

Date:

**SPC (Y/N):** 

0.00

0.00

Set Up/

Run Hours

Draw Number

Plan Draw Rev. Code

Accept Otv

Reject Qty

Reject Number

Insp. Stamp

Draw Nbr	Revision Nbr
D3274	D
IIN-D206-642	Rev M

100



Document Control

DOCUMENT CONTROL

Memo

Photocopy bluefile & type labels per PPP D206-642-541

CHG003

Dart Ae	rospace L	.td								٠,	
W/O:				WC	RK ORDER CHAI	NGES					
DATE	STEP		PROCEDURE CHANGE					Date	Qty	Approval Chief Eng / Prod Mgr	Approvi
Part No	):		PAR #:	Fault Cated	lorv.	NC	P: Vos	No. DO	Δ.	Dotos	
			PAR #:         Parl Category:         NCR: Yes No DQA:         Date:           Disposition:         QA: N/C Closed:         Date:								
NCR:					R NON-CONFOR					Date	
DATE			escription of NC Corrective Action			Section B Verification Approval Ap					
DATE	STEP		Section A	Initial Chief Eng	Action Description Chief Eng	on	Sign & Date		ion C	Approval Chief Eng	Approva QC Inspect
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April 6, 2010 8:56:05 AM

Item ID:

D206-642-541

Accept



Setup Start

Stop



Revision ID:

Item Name:

Replacement Skidtube

Start Date:

06/04/2010

Start Otv: 1.00

**Required Date:** 16/04/2010

Req'd Qty: 1.00



Date:

**Cust Item ID:** Customer:

Reference:

A	nn	rov	ale	
	$\nu \nu$	101	413	•

Date:

Tooling: SPC (Y/N):

Date: Date: Run

Start Stop

Sequence ID/ **Work Center ID** 

110

Skidtubes

Skidtubes

Operation Description

Set Up/ Run Hours Draw Number Draw Plan Rev. Code

Accept Otv

Reject **Qty** 

Reject Insp. Number Stamp

Skidtubes

Memo

0.00

0.00

\*\*\*\*VERIFY AND INSPECT THE MATERIAL PRIOR TO USE\*\*\*\*

1- Bend FWD end of tube using bend prog D3274 FWD dwg D3274, cut fwd 41014/7 end of tube with saw table setup D3274.

2- remove fwd indexing ridge as per dwg D3274. Prepare for welding

3- weld fwd cap as per dwg D3274 and OSI004 AR Aluminum Rod Batch: MIIA307/MII3207

10/4/14 BE 10/04/14

5- Cut AFT end of tube at 170.9" as per dwg D3274 and deburr end.

6-Drill Aft cap pilot hole using DT8025

4- grind fwd cap weld on top surface only

7 -Cleco DT8025 in position and install pilot hole drill Jig DT8742A.B.C.D. Drill 3/16" pilot holes as per Dwg D3274

8 -Remove inner indexing ridge on aft end of skidtube as per Dwg D3274 scribe batch #

9 -Open aft end cap holes to Ø0.208" as per Dwg D3274. Deburr aft end.

### **Dart Aerospace Ltd** W/O: **WORK ORDER CHANGES** Approval DATE STEP **Approval PROCEDURE CHANGE** By Date Qty Chief Eng / QC Inspector Prod Mgr Part No: \_\_\_\_\_ PAR #: \_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_ Date: \_\_\_ Resolution Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_ Date: \_\_\_\_ **WORK ORDER NON-CONFORMANCE (NCR)** NCR: **Corrective Action** Section B **Description of NC** Verification DATE **Approval STEP** Approval Initial **Action Description** Sign & Section A Section C Chief Eng QC Inspector Chief Eng Chief Eng Date

## Work Order ID 57355

April 6, 2010 8:56:05 AM

**Required Date: 16/04/2010** 



Page 3

Item ID:

D206-642-541

Accept



Setup Start

Stop



Revision ID:

Item Name:

Replacement Skidtube

**Start Date:** 

06/04/2010

Start Otv: 1.00

Req'd Qty: 1.00



**Cust Item ID: Customer:** 

Reference:

Process Plan:

Operation

Description

Date:

Tooling:

Date:

Draw

Number

Start Run

OC:

Date: \_\_\_\_\_

SPC (Y/N):

Set Up/

Date:

Stop

Sequence ID/ Work Center ID

120

HandFinish

Memo

Chemical Conversion Coat per QSI005 4.1

Run Hours

0.00

Draw Rev.

Plan Accept Qty Code

Reject Qty

Reject Number Stamp

Insp.

Hand Finishing

Memo

0.00

130

OC

Quality Control

QC3- Inspect Part Finish

0.00

0.00

410/4/15

140

QC5- Inspect part completeness to step on W/O

0.00

5 wolo4/15

Quality Control

Memo

0.00

Dart Ae	rospace Lt	td						
W/O:			WC	RK ORDER CHANG	ES			4
DATE	STEP	PR	OCEDURE CHA	NGE	Ву	Date Qty	Approval Chief Eng / Prod Mgr	Approva QC Inspecto
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Part NC		PAR #:						
	Reso	lution:					Date: _	
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## Work Order ID 57355

April 6, 2010 8:56:05 AM

**Required Date:** 16/04/2010



Page 4

Item ID:

D206-642-541

Accept



Setup Start

Stop



**Revision ID:** 

**Item Name:** 

Replacement Skidtube

**Start Date:** 

06/04/2010

Start Qty: 1.00

Req'd Qty: 1.00



Date:

**Cust Item ID:** 

**Customer:** 

Reference:

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Ap	prov	ais:

Process Plan:

Date:\_\_\_\_\_ Tooling:

SPC (Y/N):

Date:

Date:

Run Start

Stop

Sequence ID/

Work Center ID

150

Skidtubes Skidtubes

Operation Description Set Up/ **Run Hours** 

Draw Number Draw Plan Rev. Code

Accept Qty

Reject Qty

Reject Number Stamp

Insp.

Skidtubes

Memo

0.00

0.00

1-Open Ø0.313" and 0.375" crossbolt spacer holes using DT8743 as per Dwg

2-Deburr crossbolt spacer holes as per Dwg D3274 and blow out chips from inside the tube

3-Bond web in place as per Dwg D3274 & QSI 015. A/R  $\square$  Sikaflex-291  $\square$   $\square$   $\square$ 

Sikaflex expire date: 10/8/79
Start: 10/4/15 Time: 11/0 Finish: 10/04/20 Time: 7:50AM (Adhere for 12 hours)

M10/4/15

160

QC5- Inspect part completeness to step on W/O

Memo

Quality Control:

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W/O: .	<del>,</del>		•	V	VORK ORD	ER CHA	NGES		*: y		·	7		
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Part No:			PAR #:	_ Fault Ca	tegory:	1	NC	R: Yes	No DQA	\:	_ Date: _			
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Work Orde April 6, 2010 8		355								Page 5
Revision ID:   Item Name: Start Date:	D206-642-54 Replacement S 06/04/2010	kidtube  Start Qty: 1.00		Accept	Cust Iter	n ID:		Se Se	tup Star Stop	
Required Date: Reference: Approvals:	Process Plan	Req'd Qty: 1.00		Tooling:	Custome	Date:		Ru	n Star Stop	
Sequence ID/ Work Center ID		Operation Description Skidtubes	Date:	SPC (Y/N):  Set Up/ Run Hours 0.00	Draw Numbe	Date: Draw r Rev.		-	Reject Qty	Reject Insp. Number Stamp
Skidtubes Skidtubes		drop pins in 2- DRILL PI OPEN HOL 3-DRILL TO END OF TU DEBURR I REMOVE A	Crossbolt spacer holes to related to the LOT HOLES FOR WEAR ES TO .297". Deburr  DE PIN HOLE .640" DIA AUBE  NSIDE OF HOLE AS NEGNY FOREIGN OBJECTS  INK crossbolt spacer holes a	AS PER DWG USING DT CESSARY (DO NOT ENL	1T2 8935 FWD	SP.	10-4 BE10		<i>'</i> o'	
QC Quality Control		QC5- Inspect part compl  Memo	eteness to step on W/O	0.00 hz 3	1.6°	s loy120	_			A A A A A A A A A A A A A A A A A A A

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NCR:		:	١	WORK ORDER NON-CONFORMANCE (NCR)								
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Page 6

Insp.

Stamp

April 6, 2010 8:56:05 AM Item ID: D206-642-541 Accept Setup Start **Revision ID:** Stop Replacement Skidtube Item Name: **Start Date:** 06/04/2010 Start Qty: 1.00 **Cust Item ID: Required Date:** 16/04/2010 Req'd Qty: 1.00 **Customer:** Reference: Start Run Process Plan: Date:\_\_\_\_\_ **Approvals:** Tooling: Date: Stop Date: SPC (Y/N): Date: Sequence ID/ Operation Set Up/ Draw Draw Plan Reject Accept Reject Work Center ID Description **Run Hours** Number Rev. Code Qty Qty Number 0.00 Skidtubes Skidtubes 0.00 Memo Skidtubes 1-Insert D2649 & D3275-1 crossbolt spacers. Weld as per QSI 004 and Dwg D3274. Remember to back drill each hole before welding the other side. Use A/R□□Aluminum Rod□ M/12507 3-Grind cross bolt welds flush as per Dwg D3274. 4-Counterbore 5/16" x 0.750" deep as per Dwg D3274 and deburr.

200

QC5- Inspect part completeness to step on W/O

**Quality Control** 

Memo

Dart Ae	rospace	e Ltd								
W/O:				V	VORK ORDER CHANG	ES				
DATE	STEP		PR	OCEDURE CH	IANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	'Approva QC Inspecto
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Part No			PAR #:	Fault Ca	tegory:	_ NCR: Yes	No DQA:		_ Date: _	7.00
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## Work Order ID 57355

'April 6, 2010 8:56:05 AM



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Item ID:

D206-642-541

Accept



Setup Start

Stop



**Revision ID:** 

Item Name:

Replacement Skidtube

**Start Date:** 

06/04/2010

Start Qty: 1.00

**Required Date:** 16/04/2010 Reg'd Oty: 1.00



**Cust Item ID:** 

**Customer:** 

Reference:

Approvals:

Process Plan: \_\_\_\_\_ Date: \_\_\_\_

**Tooling:** 

\_\_\_\_\_\_ Date: \_\_\_\_ SPC (Y/N):

Date:

Date:

Run

Start

Stop

Sequence ID/ Work Center ID

210

Quality Control

Operation Description

QC10- Inspect visual per QSI004- ground welds

Set Up/ **Run Hours** 

Draw Number Draw Plan Rev. Code

Accept Qty

Reject **Qty** 

Reject Insp. Number Stamp

Memo

220



Hand Finishing

Pressure Wash per QSI005 4.3

230



Powdercoat

Powder Coating

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

M114207

0.00 => 11/10/05/06

Memo

START TIME: 1 ( '.OC) AVOVEN TEMPERATURE: 3709(-FINISH TIME: 1/:15Ac

Dart Ae	rospace Ltd	1	•			•						
W/O:			WC	RK ORDER CHANGE	S		<del></del>					
DATE	STEP	PR	PROCEDURE CHANGE			Date Qty	Approval Chief Eng / Prod Mgr	Approva QC Inspect				
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Part No	):	PAR #:	Fault Cate	gory:	NCR: Yes	No DQA:	Date: _					
	Resol	ution:	Disposition	QA: N/C Clo	osed:	Date: _	<u> </u>					
NCR:			WORK ORDER NON-CONFORMANCE (NCR)									
DATE	STEP	Description of NC Section A	Initial Chief Eng	Corrective Action Section Action Description Chief Eng	Sign &	Verification Section C	Approval Chief Eng	Approva QC Inspect				
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## Work Order ID 57355

April 6, 2010 8:56:05 AM



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Item ID:

D206-642-541

Accept



Setup Start



**Revision ID:** 

Item Name: Replacement Skidtube

**Start Date:** 

06/04/2010

Start Qty: 1.00

**Required Date:** 16/04/2010 Req'd Qty: 1.00



**Cust Item ID:** 

**Customer:** 

Draw

Number

Reference:

Approvals:

Process Plan:

Date:

Date:\_\_\_\_\_

**Tooling:** 

SPC (Y/N):

Set Up/

**Run Hours** 

Date:

Date:

Draw

Rev.

Run

Start

Stop



Stop



Sequence ID/ Work Center ID

240

Quality Control

Operation Description

QC3- Inspect Part Finish

Memo

0.00

0.00

Plan

Code

Qty

Accept

Qty

Reject Reject

Insp. Number Stamp

250

HandFinish

HandFinishing

Memo

Memo

0.00

0.00

Hand Finishing

1-Install Nut Plate as per Dwg D3274. Apply LPS-3 to Nut Plate and rivets.

A/R□N/A□LPS-3□

2-Install inserts as per Dwg D3274. Use a drop of Sikaflex inside insert holes a

A/R□□Sikaflex-291 □ Sikaflex expire date:

bf10-5-121

260

QC

QC5- Inspect part completeness to step on W/O

0.00

Quality Control Inspect Nut Plate & Inserts

Dart Ae	rospace	e Ltd												
W/O:				WORK ORDER CHANGES										
DATE	STEP		PR	OCEDURE CHAI	NGE		Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approv			
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## Work Order ID 57355

\*April 6, 2010 8:56:05 AM



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Item ID:

D206-642-541

Accept



Setup Start



Revision ID:

Item Name: Replacement Skidtube

**Required Date:** 16/04/2010

**Start Date:** 06/04/2010

Start Oty: 1.00

Reg'd Oty: 1.00



Date: \_\_\_\_\_

**Cust Item ID:** 

**Customer:** 

Reference:

Approvals:

Process Plan:

Date: \_\_\_\_\_

Tooling:

SPC (Y/N):

Date: Date:

Plan

Code

Start

Stop

Stop



Run

Sequence ID/ Work Center ID

270

HandFinish Hand Finishing Operation Description Set Up/ **Run Hours**  Draw Number Draw Rev.

Accept Qty

Reject Otv

Reject Number Stamp

Insp.

HAND FINISHING RESOURCE #1

Memo

0.00

0.00

1-Install wearpads & gaskets as per Dwg D3274.

2-Install ring as per Dwg D32

A/R□□Sikaflex-291 □ Sikaflex expire date:

3-Inspect for foreign objects as per OSI 024

4-Spray inside of tube on both sides of web with LPS-3

A/R

LPS-3

A/R□□Sikaflex-291 □

QC5- Inspect part completeness to step on W/O

Sikaflex expire date:

5-Install Aft Cap and seal with Sikaflex. Clean excess adhesive.

BR 10-5-12.

280

Memo

Quality Control

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W/O:		

W/O:				W	ORK ORDER CHA	NGES			<del> </del>		* t	
DATE	STEP		PR	OCEDURE CH			Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
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## Work Order ID 57355

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Item ID:

D206-642-541

Accept

Setup Start

Stop



**Revision ID: Item Name:** 

Replacement Skidtube

**Start Date:** 

06/04/2010

Start Qty: 1.00

**Required Date:** 16/04/2010

Req'd Qty: 1.00



Date:

**Cust Item ID:** 

**Customer:** 

Reference:

Approvals:

Process Plan:

Date:

Tooling:

SPC (Y/N):

Date:

Date:

Start Run



Stop

Sequence ID/ Work Center ID

290

Packaging

Operation Description

Identify as per dwg & Stock Location:

Memo

Memo

Set Up/ **Run Hours** 

0.00

Draw Number

Draw Plan Rev.

Accept Code Qty

Reject Reject Qty

Insp. Number Stamp

Packaging

300

Quality Control

QC21- Final Inspection - Work Order Release

0.00

0.00

10/05/17 HJ BS10-5-17

Dart Ae	rospace Ltd							
W/O:			WC	ORK ORDER CHANG	<b>iES</b>			<del></del>
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<b>Picklist Prin</b>										Page 1
April 6, 2010 8:50	6:09 AM									
Work Order ID:	57355									10
Parent Item:	D206-642-541					I				
Parent Item Name:	Replacement Skid	ltube	1 1881118 1			<b>II</b> I	Sı	tart Date:	06/04/2010	Required Date: 16/04/2010
Comments:	IPP Rev:C 07-1 IPP Rev:D 07-		earplates		•			Start Qty:		Required Qty: 1.00
D2600-1-190  Extrusion Round 3" 20		Manufactured	No		110	Each	50.0000	1.0000		
1				Warehouse	Lo	c Oty	Loc Code			
				<b>Location</b>						
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D3285-1			<i>(</i> )	47575		50				_ m 1014/7
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D3282-041		Manufactured	No	32047	150	Each	4.0000	1.0000		_
Float Web (206L/407)										

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Dart Ae	rospac	e Ltd						•			·
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order ID: 57355 Parent Item: D206-642-541 Parent Item Name: Replacement Skidtube Start Date: 06/04/2010 **Required Date: 16/04/2010** IPP Rev:B□05.09.23□Revised per D206-642 Rev. J□KJ/JLM Comments: Start Qty: 1.00 Required Qty: 1.00 Added SS Wearplates & Gaskets JLM 07-02-23 07-12-06 IPP Rev:D replace NAS1515H3L to D3672-1 DD as per PAR 08-015 DD verified by:EC IPP Rev:E 08-04-17 12 D2649 Manufactured No 190 Each 85.0000 \_\_1.0000 Cross Bolt Spacer Warehouse Loc Qty Loc Code Location Main Warehouse LG 85 55000 85 D3275-1 Manufactured No 190 Each 20.0000 12.0000 Crossbolt Spacer Warehouse Loc Oty Loc Code Location BE10/05/03 Main Warehouse LG 20 53453 20 CR3212-4-03 Purchased 250 Each 219.0000 2.0000 Cherry Rivet

Warehouse

Location

Main Warehouse

ST311 219

111359 92

112314 127

Loc Qty

Loc Code

2. BR10-5-12

Dart Ae	rospace	e Ltd								
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April 6, 2010 8:56:09 AM

Work Order ID: 57355 Parent Item: D206-642-541 Parent Item Name: Replacement Skidtube Start Date: 06/04/2010 Required Date: 16/04/2010 IPP Rev:B□05.09.23□Revised per D206-642 Rev. J□KJ/JLM Comments: Start Oty: 1.00 Required Oty: 1.00 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC D3415-041 Manufactured No 250 75.0000 Each 1.0000 Nut Plate Warehouse Loc Oty Loc Code Location Main Warehouse RR 10-5-12. ST056 75 75 CCR264SS3-3 No Purchased 250 Each 726,0000 2,0000 Cherry Rivet Warehouse Loc Qty Loc Code Location Main Warehouse ST311 726 111548 112314 113539 2 Bl 16-5-12 92 113973**v** 626 ALS4-1032-130 Purchased No 250 Each 40.0000 78.0000 Insert Warehouse Loc Qty Loc Code Location 78. BL10-5-12 Main Warehouse ST282 114407 40 110511 40

Dant Ae	- Обраб									
W/O:	T				. Ten					
DATE	STEP		PROCEDURE CHANGE					Date Qt	y Chief Eng Prod Mgr	
·										
Part No	:		PAR #:	Fault Cate	DQA:	Date:				
	Resolution			Disposition	on:	_ QA: N/C	Close	ed:	Date: _	
NCR:				WORK ORD	ER NON-CONFORMA	ANCE (NO	CR)			
DATE	STEP	TEP Da	escription of NC		ion B		Verification	n Approval	Approval	
			Section A	Initial Chief Eng	Action Description Chief Eng	n Sign & Date		Section C	Chief Eng	QC Inspector
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NOTE	ate & initi	al all entries		******						

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Required Date: 16/04/2010 Required Oty: 1.00

April 6, 2010 8:56:09 AM

Work Order ID: 57355

Parent Item:

D206-642-541

Parent Item Name:

Replacement Skidtube

Comments:

IPP Rev:B□05.09.23□Revised per D206-642 Rev. J□KJ/JLM

IPP Rev:C 07-02-23 IPP Rev:D 07-12-06

Added SS Wearplates & Gaskets JLM replace NAS1515H3L to D3672-1 DD

IPP Rev:E

08-04-17

as per PAR 08-015 DD verified by:EC

No

No

D3536-15

Manufactured

Manufactured

270

Each

19.0000 1.0000

Start Date: 06/04/2010

Start Qty: 1.00

Gasket

		Warehouse Location	<u>Lo</u>	oc Oty	Loc Code		
		Main Warehouse					
		FP /		19			
		51600		7			1 BK 10.5-12
		56055		12			
Manufactured	No		270	Each	7.0000	1.0000	
		Warehouse	T a	ο O4:	Los Codo		

D3536-23

Gasket

Warehouse	Loc Qt	<u>Y</u>	Loc Code				
<b>Location</b>							
Main Warehouse FP 57529		7					
53468		7					
	270	Each	11.0000	1.0000			

D3536-35

Gasket

Warehouse Loc Oty Loc Code

Location

Main Warehouse

51628

11 11

1 BR10-5-12

BR10-5-12

Dart Aei	uspace	; Liu										
W/O:					150							
DATE	STEP		PROCEDURE CHANGE By Date Qty						Appi Chief En Prod Mgr			
Part No	·		PAR #:	PAR #: Fault Category: NCR: Yes No DQA:								
Res		esolution		Disposition	on:	QA	: N/C CId	sed:	Date:	#:		
NCR:				WORK ORD	ER NON-CONFO	RMANCE	(NCR	)				
DATE	STEP	EP D	escription of NC Corrective A			Section B		Verificati	on Approva	I Approval		
			Section A	Initial Chief Eng	Action Descrip Chief Eng	tion 	Sign & Date	Section C				
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		,							i			
NOTE: Da	1 ate & initi:	l al all entries										

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April 6, 2010 8:56:09 AM Work Order ID: 57355 Parent Item: D206-642-541 Replacement Skidtube Parent Item Name: Start Date: 06/04/2010 **Required Date: 16/04/2010** Comments: IPP Rev:B□05.09.23 □ Revised per D206-642 Rev. J□KJ/JLM Start Qty: 1.00 Required Qty: 1.00 Added SS Wearplates & Gaskets JLM IPP Rev:C 07-02-23 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC D3536-39 No Manufactured 270 11.0000 1.0000 Each Gasket Warehouse Loc Oty Loc Code Location Main Warehouse FP 11 Bl 10-5-12 48161. 51637 ✓ 10 D3535-15 Manufactured No 270 Each 14.0000 1.0000 Wearshoe Warehouse Loc Qty Loc Code Location Main Warehouse FP 14 BR10-5-12 53462 56053 10 D3535-35 Manufactured 270 Each 9.0000 1.0000 Wearshoe Warehouse Loc Qty Loc Code

Location

Main Warehouse

51608

April 6, 2010 8:56:09 AM

Shop Packet Print

9

1 Bl 10-5-12

Dart Ae	ospace								`			
W/O:			WORK ORDER CHANGES								10	
DATE	STEP		PR	OCEDURE CHA	NGE		Ву	Date	Qty	Appro Chief Eng Prod Mgr	+	
Part No						NCR: Yes No DQA: Date:						
Γ	Resolu				1:					Date: _		
NCR:				WORK ORDI	R NON-CONFORM	ANCE	(NCR)		**-			
DATE	STEP	Description of NC	C Corrective Action Section				Verific	ation	Approval	Approval		
DAIL	SILF		Section A	Initial Chief Eng	Action Description Chief Eng		Sign & Date	Section		Chief Eng	Approval QC Inspector	
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**Required Date:** 16/04/2010

Required Qty: 1.00

BL10-5-12

x Order ID: 57355

Parent Item:

D206-642-541



Parent Item Name:

Comments:

Replacement Skidtube

IPP Rev:B□05.09.23□Revised per D206-642 Rev. J□KJ/JLM IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM□

IPP Rev:D 07-12-06

replace NAS1515H3L to D3672-1 DD

IPP Rev:E

08-04-17 as per PAR 08-015 DD verified by:EC

D3535-39

Manufactured N

270

Each

9.0000

Loc Code

1.0000

**Start Date:** 06/04/2010

Start Qty: 1.00

Wearshoe

<u>Warehouse</u>	Loc Q	<u>ty</u>	Loc Code	•
<b>Location</b>				
Main Warehouse				
FP /		9		
51619		9		
No	270	Each	14.0000	1.0000

D3535-23

Manufactured No

Wearshoe

		<del></del>	zor cour	
<b>Location</b>				
Main Warehouse				
FP		14		
53467		2		
53467 56054 <b>/</b>		12		
	270	Each	20.0000	1.0000

Loc Otv

D3537-3

Manufactured No

1.0000

Wearpad

Warehouse <u>Loc Oty</u> <u>Loc Code</u>

Location

Warehouse

Main Warehouse

FP 52512

20 20 1 BR10-5-12

JBR 10-5-12

Dart Ae	rospace	Lta								
W/O:				W	ORK ORDER CHAN	GES				
DATE	STEP		PR	Ву	ı	Date	141,4070	2 3		
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			-							`. 
Part No	:		PAR #:	Fault Cat	legory:	NCR: Ye	es No	DQA:	_ Date: _	·
Resolution:		· · · · · · · · · · · · · · · · · · ·	Dispositi	on:	QA: N/C	Clos	ed:	Date: _		
NCR:		·		WORK ORI	DER NON-CONFORM	MANCE (N	CR)			
DATE	STEP	De	escription of NC			ection B	Sign & Verificati		n Approval	Approval
			Section A	Initial Chief Eng	Action Description Chief Eng		n & ate	Section C	Chief Eng	QC Inspector
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**Required Date: 16/04/2010** 

Required Qty: 1.00

9 BR 10-5-12 80 BR10-5-12

order ID: 57355

Parent Item:

D206-642-541

Parent Item Name:

Replacement Skidtube

Comments:

IPP Rev:B□05.09.23□Revised per D206-642 Rev. J□KJ/JLM

IPP Rev:C 07-02-23

Added SS Wearplates & Gaskets JLM

IPP Rev:E

IPP Rev:D 07-12-06 08-04-17

replace NAS1515H3L to D3672-1 DD as per PAR 08-015 DD verified by:EC

NAS1149C0332F

D3537-1

Manufactured No

Purchased

Purchased

270

Each

Loc Qty

51.0000

Loc Code

0.0000

9.0000

Start Date: 06/04/2010

Start Qty: 1.00

Wearpad

Warehouse Location

Main Warehouse

55465

270

Each

51

51

270

Each

377

377

377.0000 1.0000

80.0000

AN960C10L

washer

AN960C416

washer

Warehouse

Location

Main Warehouse ST346

100993

Loc Oty

Loc Code

\_\_\_\_BR 10-5-12

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W/O:				WC	RK ORDER	CHANGES				
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										Total Land
Part No	:		PAR #:	Fault Categ	ory:	N	ICR: Yes	No DQA:	Date: _	
Resolution:					osed:					
NCR:				WORK ORDE						
DATE	STED	STEP De	scription of NC	<i>•</i>			ction B Verif		Approval	Approval
			Section A	Initial Chief Eng	Action De	escription Eng	Sign & Date	Section C	Chief Eng	QC Inspector
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Required Date: 16/04/2010

Required Oty: 1.00

.ork C	)rder	ID:	573	55

Parent Item:

D206-642-541

Parent Item Name:

Replacement Skidtube

Comments:

IPP Rev:B□05.09.23□Revised per D206-642 Rev. J□KJ/JLM

IPP Rev:C 07-02-23 IPP Rev:D

Added SS Wearplates & Gaskets JLM replace NAS1515H3L to D3672-1 DD 07-12-06

IPP Rev:E

as per PAR 08-015 DD verified by:EC 08-04-17

D3672-1

Manufactured

No

270

Each

1.589.000 2.0000

**Start Date:** 06/04/2010

Start Oty: 1.00

Phenolic Washer

		<u>Warehouse</u>	Ī	oc Oty	Loc Code	
		<b>Location</b>				
		Main Warehouse				
		ST077		1589		
		47628		89		
		51674		500		
		52505		1000		
Purchased	No		270	' Each	1,249.000	80.0000

BOLT

AN3C4A

Warehouse	Loc Qty	Loc Code
Location		
Main Warehouse		
ST350 114523	1249	
113226	248	
114103	501	
114108	500	

2 Bl 10-5-12

Dart Ae	rospace	> Ltd											
W/O:				W	ORK ORDER CH	ANGES							
DATE STEP			PROCEDURE CHANGE				Ву	Date	7111,147,5	All de la			
Part No			PAR #:	AR #: Fault Category:			NCP: Voc No DOA:						
	R	esolution:		Disposition:									
NCR:		<del></del>		DER NON-CONFO									
DATE	STEP	De	scription of NC Section A	Corrective Action Section   Sectio			Sign &	Verification Section C	Approval Chief Eng	Approval QC Inspector			
				Chief Eng	Chief Eng		Date						
NOTE: D		al all entries	·										

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April 6, 2010 8:56:09 AM

Work Order ID: 57355

Parent Item:

D206-642-541

Parent Item Name:

Replacement Skidtube

Comments:

IPP Rev:B□05.09.23□Revised per D206-642 Rev. J□KJ/JLM

IPP Rev:C 07-02-23 IPP Rev:D

07-12-06 08-04-17 IPP Rev:E

Added SS Wearplates & Gaskets JLM

replace NAS1515H3L to D3672-1 DD as per PAR 08-015 DD verified by:EC

Start Date: 06/04/2010

Required Date: 16/04/2010

Start Qty: 1.00

Required Qty: 1.00

-Rl 10-5-12

AN4C5A

**BOLT** 

Purchased

No

270

Each

534.0000 1.0000



Warehouse Location

Main Warehouse

ST346 112243

Manufactured No Loc Oty

534 34 500

Each

35.0000 1.0000

Loc Code

D2646 Aft Cap

> Warehouse Loc Oty Loc Code Location Main Warehouse FP6 28 52663 28 Main Warehouse fp7 7 52663 7

270

1 Bl 10-5-12

Dart Aer	ospace Lt	id													
W/O:				V	VORK	ORDER CHANG	ES					To			
DATE	STEP		PROCEDURE CHANGE				Ву	'	Date	Qty	Appro Chief Eng. Prod Mgr				
												-			
Part No:Resolution									NCR: Yes No DQA: Date: QA: N/C Closed: Date:						
						ON-CONFORMA					Date: _ 				
			Composition Assistance			Section B		T			<del></del>				
DATE	STEP	De	scription of NC Section A	Initial Chief Eng	Τ	Action Description Chief Eng	Sig	n & ate	Verific Secti	cation on C	Approval Chief Eng	Approva QC Inspecto			
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April 6, 2010 8:56:09 AM

Page 10

Work Order ID: 57355

Parent Item:

D206-642-541

Parent Item Name:

Replacement Skidtube

Comments:

IPP Rev:B□05.09.23 □Revised per D206-642 Rev. J□KJ/JLM

IPP Rev:D 07-12-06

IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM replace NAS1515H3L to D3672-1 DD

No

as per PAR 08-015 DD verified by:EC IPP Rev:E 08-04-17

Manufactured

270

Each

31.0000 1.0000



Start Date: 06/04/2010

Start Qty: 1.00

Ring

D3413-1



Warehouse Loc Qty

Location

Main Warehouse

51586

53446

8 23

31

Loc Code

1 Blo-5-12.

Required Date: 16/04/2010

Required Qty: 1.00

W/O:			WORK ORDER CHANGES										
DATE	STEP		PRO	OCEDURE CHAI	NGE	2.00	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	12		
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Part No:			DAD #										
Part No:					gory:								
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NCR:	_		'	WORK ORDE	R NON-CONFORM	MANCE	(NCF	R)			-		
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	<b>.</b>		Section A	Initial Chief Eng	Action Description Chief Eng	n	Sign 8 Date		ion C	Chief Eng	QC Insp		
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DESIG	CP	DRAWN BY	DART AEROSPACE USA, INC.
CHEC	KED 1	APPROVED 1	DRAWING NO. REV. D
	#	-#	D3274 SHEET 1 OF 4
DATE		•	TITLE SCALE
06.1	2.19		SKIDTUBE ASSEMBLY NTS
Α	·	04.03.15	NEW ISSUE
В		04.08.09	MOVE SADDLE HOLE: 42.14 WAS 42.76
С		05.03.16	ADD -043; NEW INSERTS
D		06.12.19	NEW INSERTS, SS WEARSHOE + GASKET

BS 10-4-06

Qty -041	Qty -043	Part Number	Description		
Х		D3274-041	SKIDTUBE ASSEMBLY		
	Х	D3274-043	SKIDTUBE ASSEMBLY	SHOP COPY	
1	1	D2600-1-240	EXTRUSION	RETURN TO	
1	1	D2646	AFT CAP	ENGINEERING	
12	12	D2649	CROSS BOLT SPACER TIME	MTROLLED CDF	PΥ
12	37	D3275-1		SJECT TO AMENDMEN	
1	1	D3282-041	FLOAT WEB		
1	1	D3285-1	CAP	VITHOUT NOTICE	
1	1	D3413-1	RING	VORK ORDER	
1	1	D3415-041	NUT PLATE N	57355	
1	1	D3535-15	WEARSHOE		
1	1	D3535-23	WEARSHOE	] Pol 10-A-	-0
1	1	D3535-35	WEARSHOE		
1	1	D3535-39	WEARSHOE		
1	1	D3536-15	GASKET		
1	1	D3536-23	GASKET	_] [	
1	1	D3536-35	GASKET		
1	1	D3536-39	GASKET	_	
9	9	D3537-1	WEARPAD		
1	1	D3537-3	WEARPAD	_	
78	78	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, AELS-1032-130)		
80	80	AN3C4A	BOLT		
1	1	AN4C5A	BOLT	7 1	
1	1	AN960C416	WASHER		
80	80	AN960C10L	WASHER		
2	2 .	CCR264SS3-3	RIVET		
2	2	CR3212-4-03	RIVET		
2	2	NAS1515H3L	WASHER		

#### **GENERAL NOTES:**

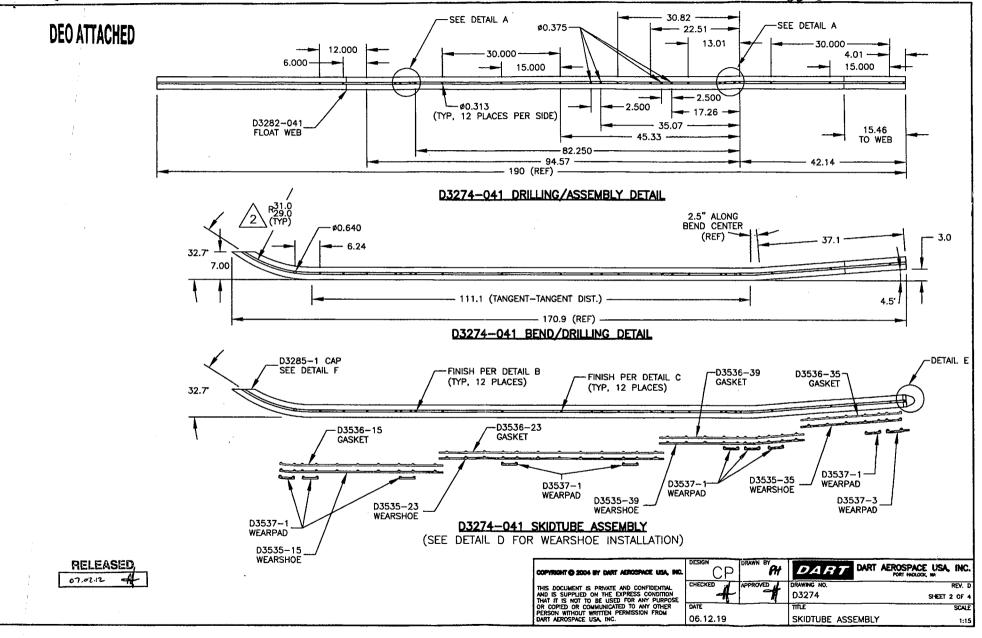
- 1. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2. DAMAGE TOLERANCE ON FWD BEND:

THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.

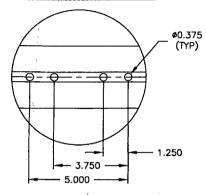
- 3. ALL HOLES DRILLED ON CENTERLINES.
- 4. BOND D3282-041 FLOAT WEB INTO D3274-1/-3 OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.
- 5. WELDING TO BE DONE PER DART QSI 004.
- 6. FINISH: ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1 POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
- 7. DRILL Ø0.297 HOLES FOR ALS7-1032-130 INSERTS USING DT3274-1T2 BEFORE FINISH. INSTALL ALS7-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLEX -241/-291.
- 8. SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.

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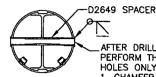
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#### DETAIL A: DRILL DETAIL



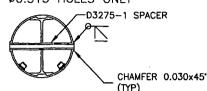
# **DETAIL B**FOR Ø0.375 HOLES ONLY



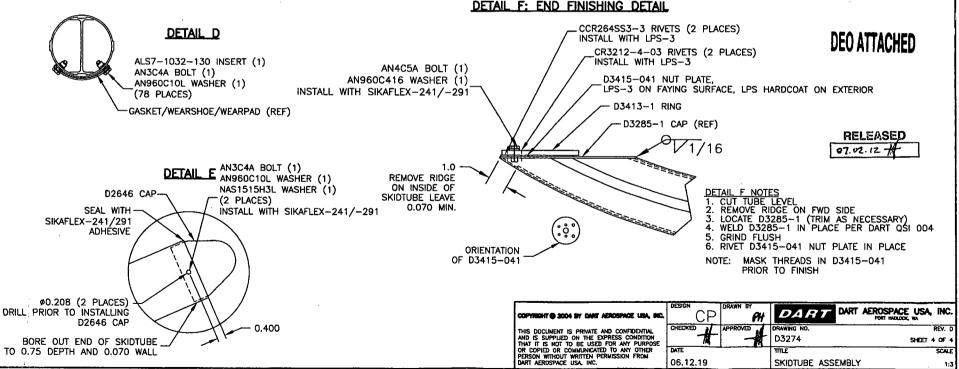
AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:

- 1. CHAMFER HOLE 0.030x45° 2. INSERT D2649 SPACER
- 3. WELD INTO PLACE AND GRIND FLUSH
- 4. C'BORE TO Ø0.313x0.75 DEEP

DETAIL C FOR Ø0.313 HOLES ONLY



#### **DETAIL F: END FINISHING DETAIL**



		ME	REV. D DART AE	EROSPACE USA, II	<b>VC</b> D.E.O. NO.		SHEET NO.	SCALE
		SKIDTUBE ASSEMBLY	ENGII	NEERING ORDER	D3274-D-1	$\Omega$	SHEET 1 OF 1	NTS
ZIVN	S	CHECKED	MFG. API	PR. 从	APPROVED /	AP,	DE APPR.	
DATE	09.06.	17 DATE 09.06	23 DATE	09/06/23	DATE $\mathcal{D}^{\epsilon}$	1/03/23	DATE 09.06.23	

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF SKIDTUBE.

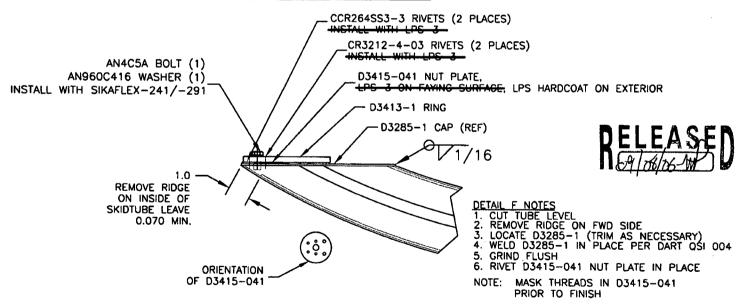
AMEND NOTE 8: "SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES 'LPS 3' AFTER FINISH AND INSTALLATION OF INSERTS."

COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES 'LPS PROCYON' AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER."

AMEND DETAIL F AS SHOWN:

wlo 57355

### DETAIL F: END FINISHING DETAIL



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ON ONIN POLICE OF

NO	320	
~ . ~		

# AWS D17.1.2001 QUALIFICATION TEST RECORD

Name: <u>barcla</u> ; Ellight
Job number: 57356
Part number: Dack-1612 - 541
Description: Noat tube
Welding Process: Tig[   Mig[ ]
Base materiel: Aluminium
Current: AC[/ DC]

# TEST REQUIREMENTS AND RESULTS

Visual: Penetration:	pass[   fail[ ] pass[   fail[ ]
UNACCEPTABLE	
Cracks: Undercut: Pin holes: Overlap (cold lap) Porosity (surface): Coloration:	pass[/] fail[ ]
Qualifier / at //y	Date of Test Coupon 10.05.05
Welder Borday Whol	Date of Test Coupon 10-05-05

The above named individual is qualified in accordance with AWS D17.1.2001 to weld